MEMORANDUM

SUBJECT: Addendum to the Quality Assurance Project Plan for Site Characterization for the Herculaneum Lead Smelter Superfund Site

FROM: Bruce A. Morrison
Project Manager

TO: EPA Quality Assurance Branch

This Memorandum is a request for the EPA Region VII Quality Assurance Branch to review the following soil sampling clarification and attached memorandum authored by the EPA Technical Review Workgroup concerning site-specific soil sampling.

Page 7 of the attached Quality Assurance Project Plan (QAPP) states that surface soil samples will be collected from the upper 1 inch of the soil horizon. This memorandum seeks to clarify that samples will be surface soil scrapings collected from the uppermost soil horizon not to exceed 0.5 inches in depth. The rational for this shallow sampling is based on the nature of an ongoing source of lead at the site which is identified as the emissions from the lead smelter in Herculaneum. Although previous surface soil samples taken at the site have been collected from the 0.5-inch soil horizon, this memorandum is intended to identify more specifically the depth that soil samples are collected from at the site.

APPROVED BY:

Bruce A. Morrison — 8/30/06
EPA Project Manager, Bruce A. Morrison — Date

Diane Harris — 09/05/2006
Quality Assurance Representative — Date

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Site: HERCULANEUM LEAD SMELTER SITE
ID #: MOD006266373
Break: 2.1
Other: 9/05/06

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Superfund Records

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

Transmittal Memorandum
Technical Review Workgroup

An interoffice workgroup convened by Office of Solid Waste and Emergency Response

Date: December 22, 2004

Subject: Sampling Depth Interval at the Herculaneum Smelter Site

From: Jim Luey and Rob Elias
Co-Chairpersons of the Technical Review Workgroup

To: Bruce Morrison, RPM
EPA Region 7

This memorandum responds to your request (through Mike Beringer) for the TRW's comment on a sampling issue at the Herculaneum smelter site. The issue is whether data generated from samples collected in the upper 0.25 inches of the soil horizon are appropriate for use with the Integrated Exposure Uptake and Biokinetic (IEUBK) model. We agree with the position that is included in your request (attached):

> *EPA contends that surface soil collected from any portion of the upper 1 inch horizon, as long as sample aliquots for a single composite sample are taken from the same depth interval, is representative of a surface soil sample that will provide data that is suitable for evaluating human health risk using the IEUBK model.*

This position is consistent with the LSW Handbook (EPA, 2003; OSWER #9285.7-50), the Technical Background to the 1996 Soil Screening Guidance (EPA, 1996c; EPA/540/R-96/018), and the TRW guidance for shooting ranges (EPA, 2003; OSWER #9285.7-37). In addition, RAGS Part A (EPA, 1989; EPA/540/1-89/002) recommends that the sampling depth should be applicable for the exposure pathways and contaminant transport routes of concern and should be chosen with these considerations in mind. Assessment of surface exposures will be

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more certain if samples are collected from the shallowest depth that can be practically obtained. These guidance documents recommend sampling from the 0 to 1-inch depth (or shallowest depth that can be reasonably obtained) interval because children are typically exposed to surficial soil. These recommendations were intended to avoid using data from samples collected at depth (*e.g.*, 0 to 6-inch depth interval) that might dilute contamination that is present in the surficial soils, thereby underestimating the exposure (and therefore risk) to children. Samples collected at depths greater than 1-inch below the ground surface may be appropriate for future use scenarios. Sampling at depths less than 1-inch is consistent with the intention of these recommendations.

Please contact us should you have further questions.

Attachment "herc.trw.request.surface111.soil.doc"